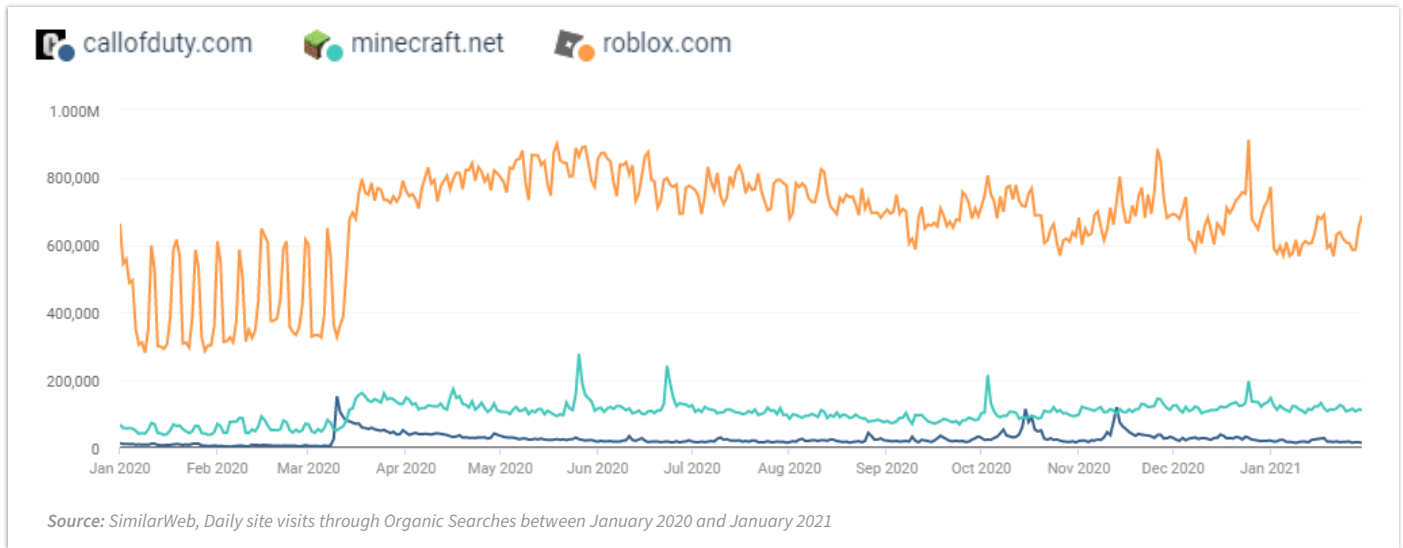# The Rise in Isolation Gaming… and Cheating

Are you just bad at video games, or has the COVID-19 pandemic brought out the cheaters?

Video games, particularly games that are played online with others, are increasingly being used as a gateway for entertainment and socialization for those isolating at home. However, some gamers find it necessary to "hack" (i.e., cheat) and thus may ruin the gaming experience of others. We were interested in how the pandemic has affected the popularity of video games, and if (or to what extent) the number of cheaters is showing the same trend.

Heyday for the Video Game Industry

Sales of both video games and consoles have experienced double-digit increases since the beginning of the pandemic.[1] To illustrate the timing of increased interest in video games, we looked at the number of site visits to the websites of certain popular video games over time. As anticipated, traffic to popular video game websites saw large upticks in or around March 2020 as physical distancing guidelines began in earnest. Daily website visits have decreased somewhat since April 2020 but have generally remained above historical levels.

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[1] https://qz.com/1904276/everyone-is-playing-video-games-during-the-pandemic/

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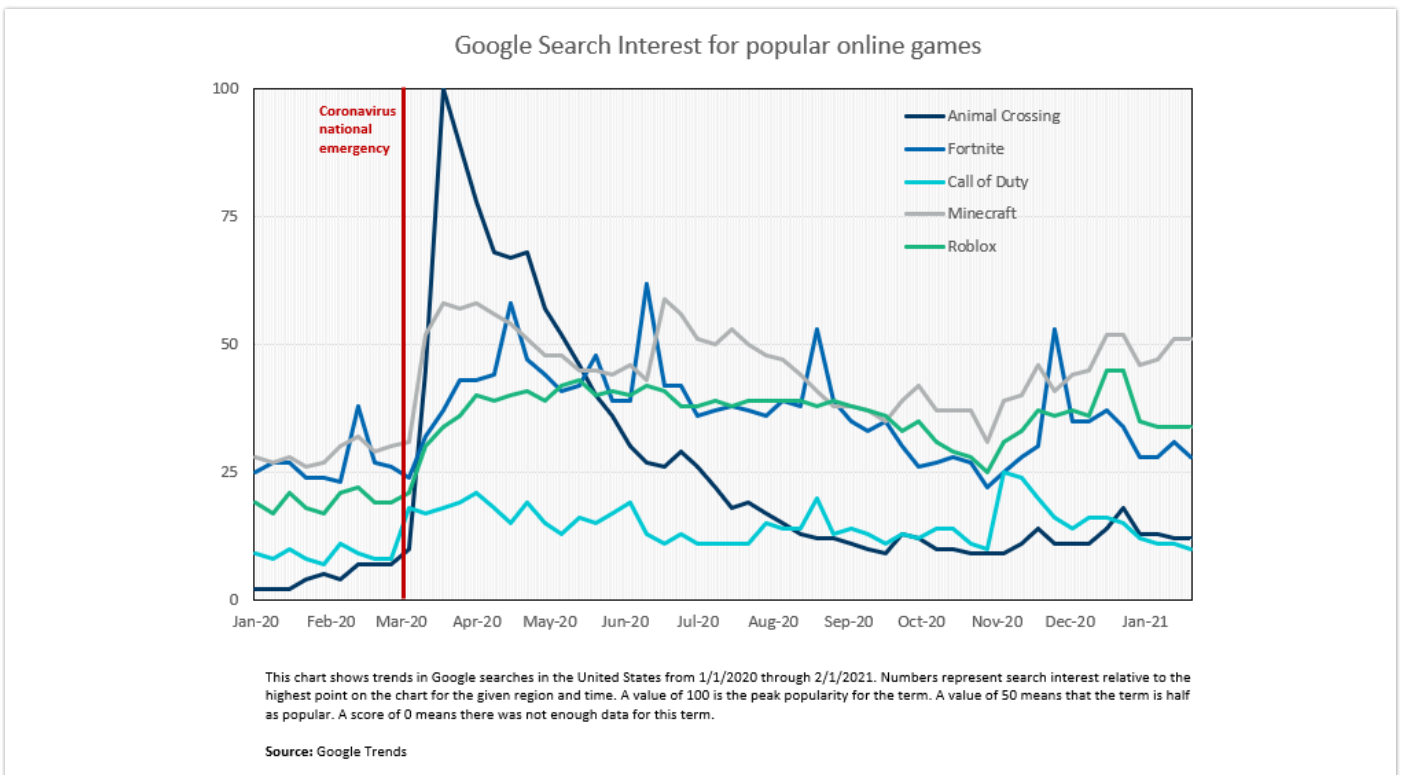*Source: SimilarWeb, Daily site visits through Organic Searches between January 2020 and January 2021*

Additional video game websites showed patterns similar to those above.

We noted an interesting trend in the above graph for the website roblox.com. Roblox is an online game platform that allows users to create their own games and play games created by other users and is generally more popular with a younger demographic. The drastic V-shaped patterns prior to March 2020 appears to relate to website activity on weekdays (lower activity) and weekends (higher activity).

This V-shaped trend gets considerably smaller after March 2020, potentially suggesting that parents now have a more relaxed attitude for allowing children to play video games during the week.

We also looked at data from Google Trends, showing the relative interest in certain search terms over time. According to Google Trends data, online searches for popular video game titles similarly saw big increases beginning in or around March 2020, many with continued interest higher than average.

Google Search Interest for popular online games

This chart shows trends in Google searches in the United States from 1/1/2020 through 2/1/2021. Numbers represent search interest relative to the highest point on the chart for the given region and time. A value of 100 is the peak popularity for the term. A value of 50 means that the term is half as popular. A score of 0 means there was not enough data for this term.

Source: Google Trends

What's up with Cheating?

Starting in the 1980s, "cheat codes" built into the code of video games gave players advantages to defeat the game, but not necessarily other gamers. With the increasing popularity of online games where players compete against each other, cheats have become a common method for gamers to gain an advantage over others. Cheats have also become more sophisticated.

Many complaints of cheating are associated with online games in a first-person shooter format.[2] These games pit participants against each other, in solo or team contests, in what is frequently referred to as a "Battle Royale." The cheaters download third-party software that modifies the game's code and allows the gamer to bypass the rules set by the developer.[3] In brief, some of the more well-known cheats, also referred to as bots or hacks, include the following:

— Aimbot: Provides the user with exceptional and automated target acquisition.

— Wallhack: Modifies the properties of walls and allows the user to, for example, see through or pass through solid objects. Also, may allow the user to see the location of all game participants, and highlights the participants in a color-coded manner indicating when the players are exposed or behind cover.

— Speed hack: Allows the user to move at increased or impossibly fast speeds.

— Fly hack: Allows the user to fly above the game map, including while using land-based vehicles.

Instances of cheating in online video games has spiked during the COVID-19 pandemic. For example, according to a video game developer, cheating in one popular game is up approximately 50% between January and May 2020.[4] In Canada, the use of bots to cheat in video games increased by over 97% between February and June 2020.[5] By October 2020, one video game developer had banned more than 200,000 accounts for cheating, and as of January 2021 had banned a total of 300,000 accounts.[6] Another developer mentioned banning "millions of accounts" for using cheat programs.[7]

To combat against cheats, Steam, an online platform that hosts thousands of games, has an automated system called Valve Anti-Cheat System, or VAC. The VAC system is designed to detect cheats installed on users' computers and will ban them automatically. According to data from Steam, the number of players banned from the platform saw a large increase in March 2020 when compared to previous months.[8]

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[2] First-person shooter games are generally considered to be centered on weapon-based combat using a first-person perspective.

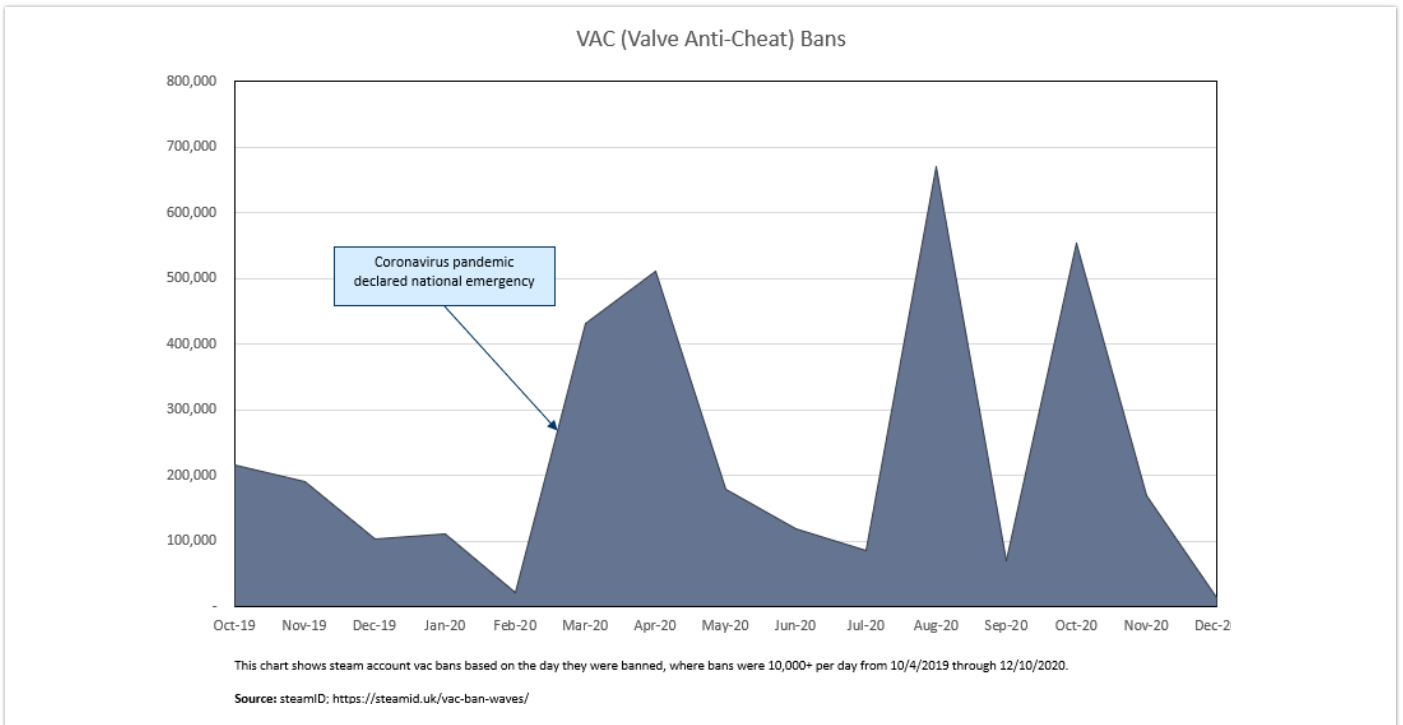[3] https://orangecyberdefense.com/global/blog/video-games/is-hacking-cheating/

[4] https://www.theverge.com/2020/5/6/21246229/pc-gaming-cheating-aimbots-wallhacks-hacking-tools-developer-response-problem

[5] https://www.talkesport.com/news/video-game-cheating-has-surged-by-97-in-canada-study-shows/

[6] https://www.theverge.com/2021/2/2/22261947/call-of-duty-warzone-cheaters-hackers-aimbots-wallhacks-problem
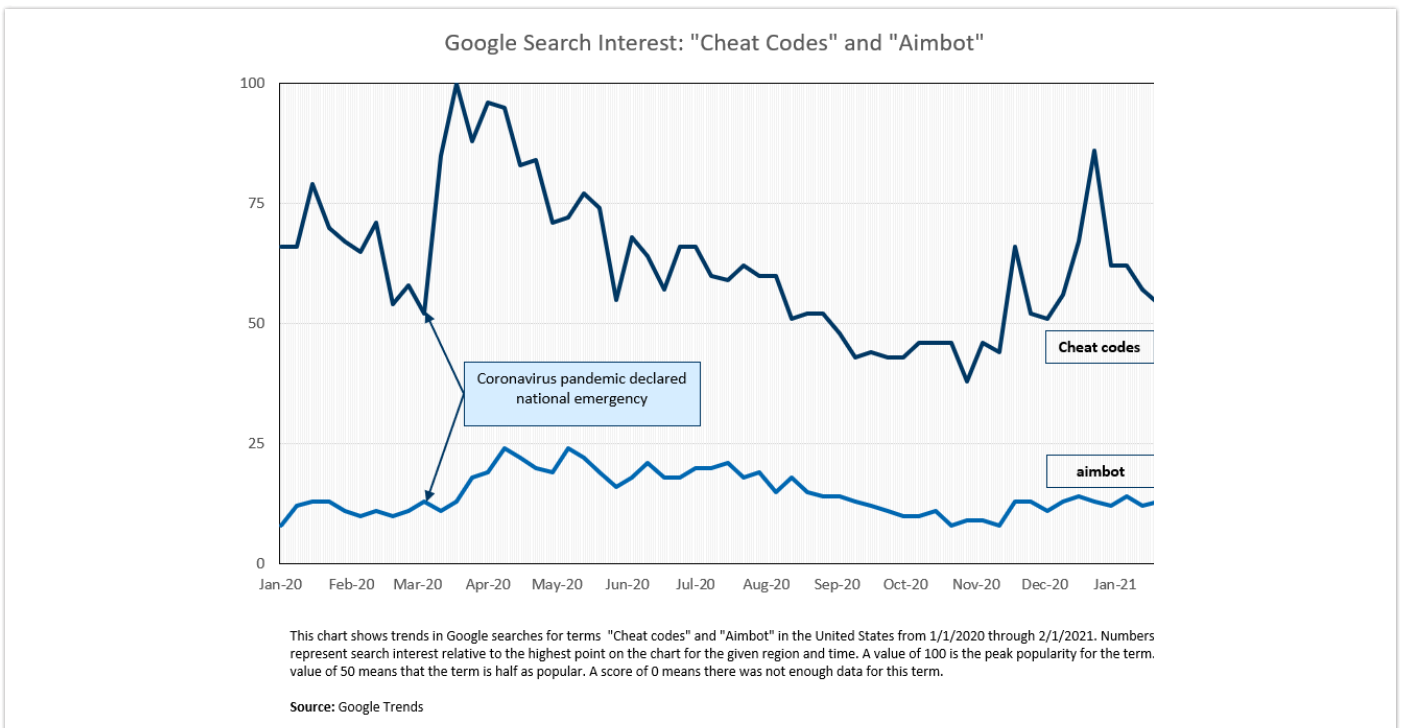
[7] https://www.eurogamer.net/articles/2020-04-25-video-game-cheating-is-back-in-the-headlines

[8] We note that, according to the Steam data, over 10 million accounts were banned between December 2018 and September 2019. However, in the previous four and a half years a total of 1.7 million accounts were banned.

VAC (Valve Anti-Cheat) Bans

Coronavirus pandemic declared national emergency

This chart shows steam account vac bans based on the day they were banned, where bans were 10,000+ per day from 10/4/2019 through 12/10/2020.

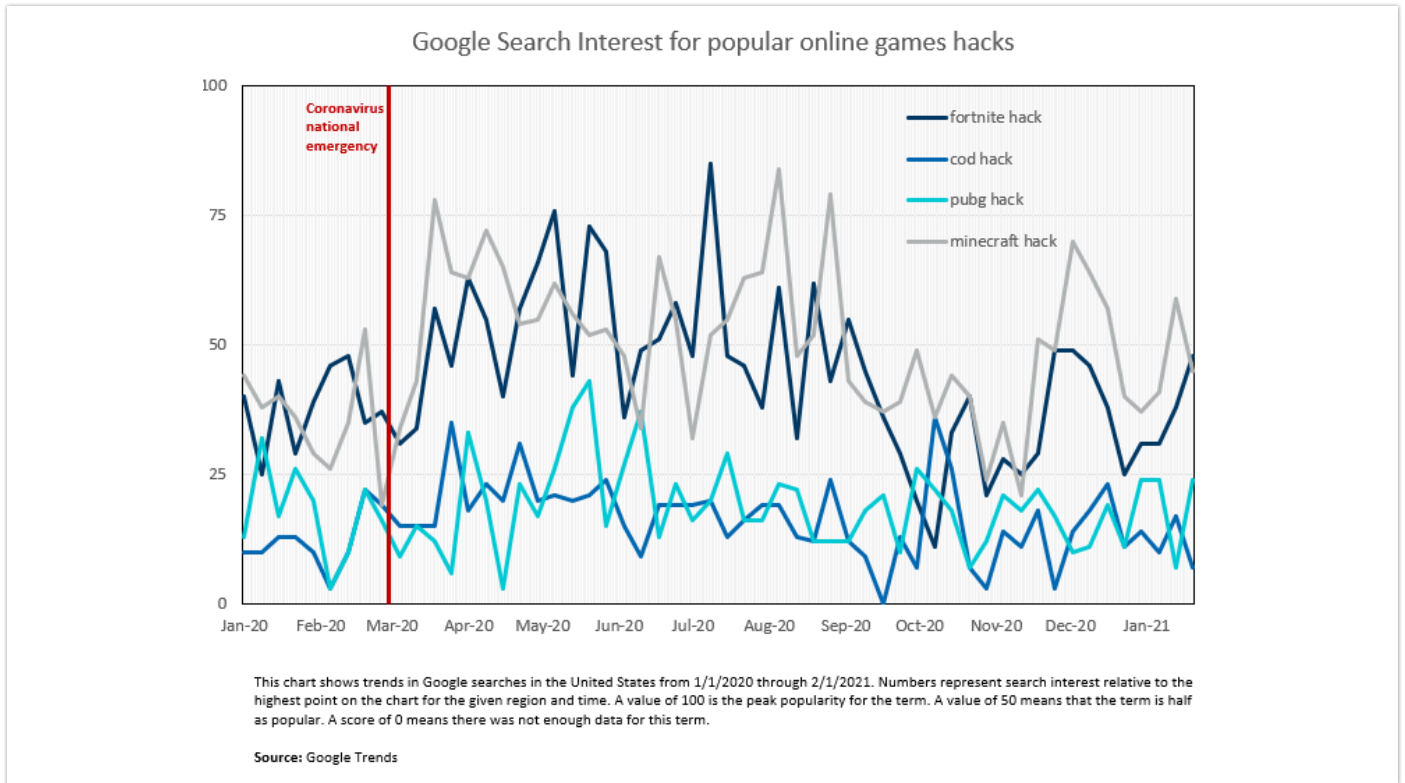**Source:** steamID: https://steamid.uk/vac-ban-waves/

Further potential evidence demonstrating increased instances of cheating may be found using data from Google Trends. According to Google Trends, searches relating to "cheat codes" saw two large spikes since July 2019: one appearing during the week of Christmas 2019 and the other starting in March 2020. Apparently, eager gamers who received video games as Christmas presents wanted to dive right in and immediately try to be pros. The December 2019 spike was short lived. The spike in March 2020, occurring when stay at home orders were being issued, was longer lived and decreased more gradually over time.

Google Search Interest: "Cheat Codes" and "Aimbot"

Coronavirus pandemic declared national emergency

Cheat codes

aimbot

This chart shows trends in Google searches for terms "Cheat codes" and "Aimbot" in the United States from 1/1/2020 through 2/1/2021. Numbers represent search interest relative to the highest point on the chart for the given region and time. A value of 100 is the peak popularity for the term. value of 50 means that the term is half as popular. A score of 0 means there was not enough data for this term.

Source: Google Trends

The previous graph also shows the trend for searching specifically for the "aimbot" cheat. While not seeing the same definitive spike as searching for cheat codes in general, interest in searching for aimbot increased starting in March 2020 and remained over historical levels for several months.

Gamers also searched more frequently for hacks related to specific video games. The below chart shows increased search interest for hacks related to individual video games occurring around March 2020.

Google Search Interest for popular online games hacks

This chart shows trends in Google searches in the United States from 1/1/2020 through 2/1/2021. Numbers represent search interest relative to the highest point on the chart for the given region and time. A value of 100 is the peak popularity for the term. A value of 50 means that the term is half as popular. A score of 0 means there was not enough data for this term.

Source: Google Trends

But Where are all the Cheaters Located?

An analysis of geographic search trend and search volume data related to multiple popular video games had some interesting results. We compared the top 20 countries where gamers are most likely to cheat with the 2020 Transparency International Corruption Perception Index (CPI). The CPI ranks 180 countries and territories by their perceived levels of corruption.

Countries with Highest Overall Cheater Density All Games		
Cheating Rank [1]	Country	2020 CPI Rank [2]
1	Brazil	94
2	Georgia	45
3	Iraq	160
4	Pakistan	124
5	Portugal	33
6	Greece	59
7	Bulgaria	69
8	Algeria	104
9	Romania	69
10	Azerbaijan	129
11	Italy	52
12	Thailand	104
13	India	86
14	Hungary	69
15	Poland	45
16	Morocco	86
17	Saudi Arabia	52
18	Denmark	1
19	Egypt	117
20	United States	25

1. https://www.rubyfortune.com/projects/cheating-countries/
2. https://www.transparency.org/en/cpi/2020/index/nzl

Brazil appears to lead the way in terms of gamers who are most likely to cheat when playing online video games. An interesting observation from the above table is that the top 20 countries where gamers are most likely to cheat are skewed toward countries that are perceived as being more corrupt (a higher CPI ranking indicates a higher perception of corruption). An odd outlier seems to be Denmark which is considered to be one of the least corrupt countries in the world.

The Cheating Triangle

Why would gamers resort to cheating? What is the point of potentially spending money (and risking being banned from your favorite game) on bots or hacks when there is no monetary reward for winning online video game matches? By using the Fraud Triangle, which helps identify factors that can lead someone to commit for-profit fraud, we can perhaps gain a greater understanding of why people cheat at video games. The Fraud Triangle consists of three elements:
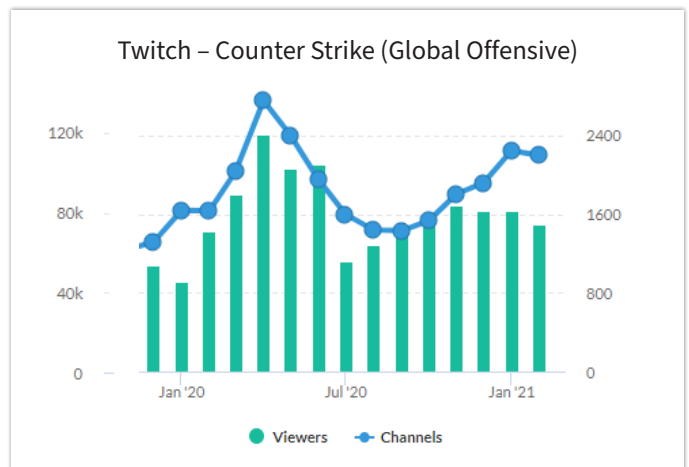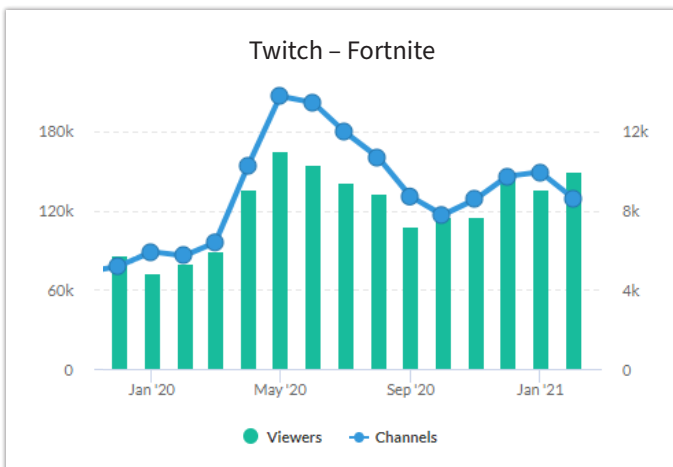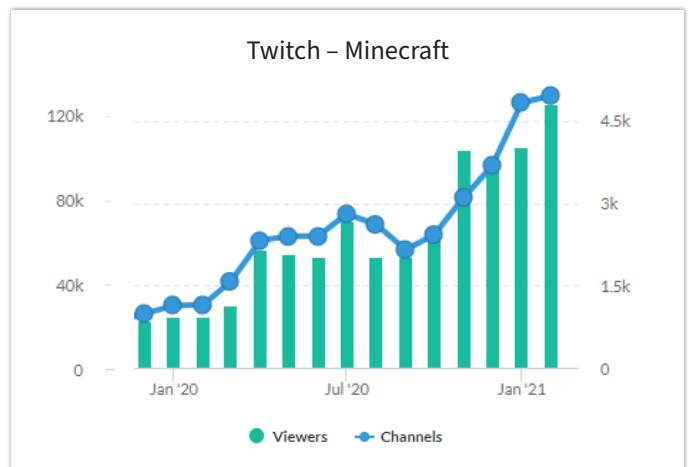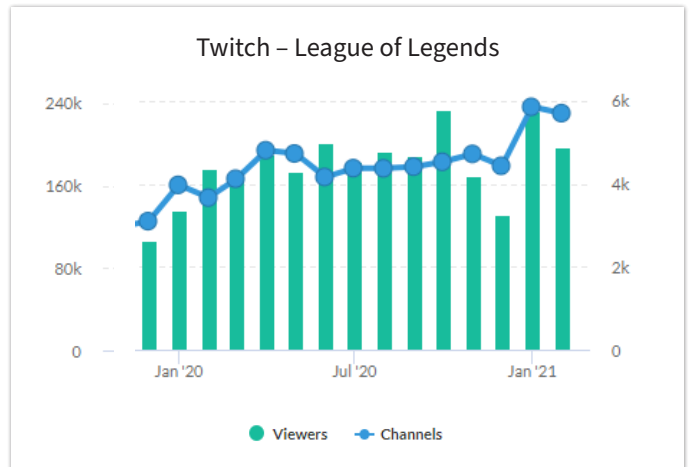
— Pressure (or motivation)

— Opportunity

— Rationalization

An analysis of the elements of the Fraud Triangle may offer some insights as to why the instances of cheating, other than an increased number of gamers, have increased during the pandemic.

Pressure / Motivation

According to the Association of Certified Fraud Examiners (ACFE), pressure to commit fraud generally relates to a perceived un-shareable financial need. Many fraudsters may feel the need to commit fraud due to financial pressures, such as having significant liabilities or expensive habits. While there may not be a direct financial impact for winning online video games, many gamers stream their matches live to followers for financial gain.

A handful of top-earning streamers of video games have raked in as much as $17 million in one year.[9] Lower-tier streamers may earn significantly less or nothing at all. Being a top-earning streamer, or making a career out of streaming, is likely out of reach for most gamers. However, many streaming gamers may be attempting to earn a little extra money on the side during the pandemic due to financial uncertainties. Further, the pandemic may have ushered in a new cadre of streamers hoping to cash in on the rise in popularity of online video games. Twitch, a popular video game streaming platform, experienced 1.49 billion gaming hours watched in April 2020, which was a 50% increase from March 2020.[10] Data from Twitch shows that the number of streamers (channels) and viewers of popular video games increased substantially around March 2020:

Twitch – League of Legends

Twitch – Minecraft

Twitch – Fortnite

Twitch – Counter Strike (Global Offensive)

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9   https://screenrant.com/video-game-streamer-salaries-money-paid-per-year/

10 https://www.washingtonpost.com/video-games/2020/05/12/video-game-industry-coronavirus/

A streamer's earnings are derived from the number of subscribers and views that the streamer generates. Streamers looking to increase their subscriber base and viewership may elect to use bots and hacks in order to make their games more exciting and to showcase an appearance of being expertly skilled at the game. Viewers may delight in the cheating gamer's ability to dominate the competition in spectacular fashion, leaving the viewers wanting to return again and again for further entertainment, thus driving additional views and increasing potential financial rewards for the streamer.
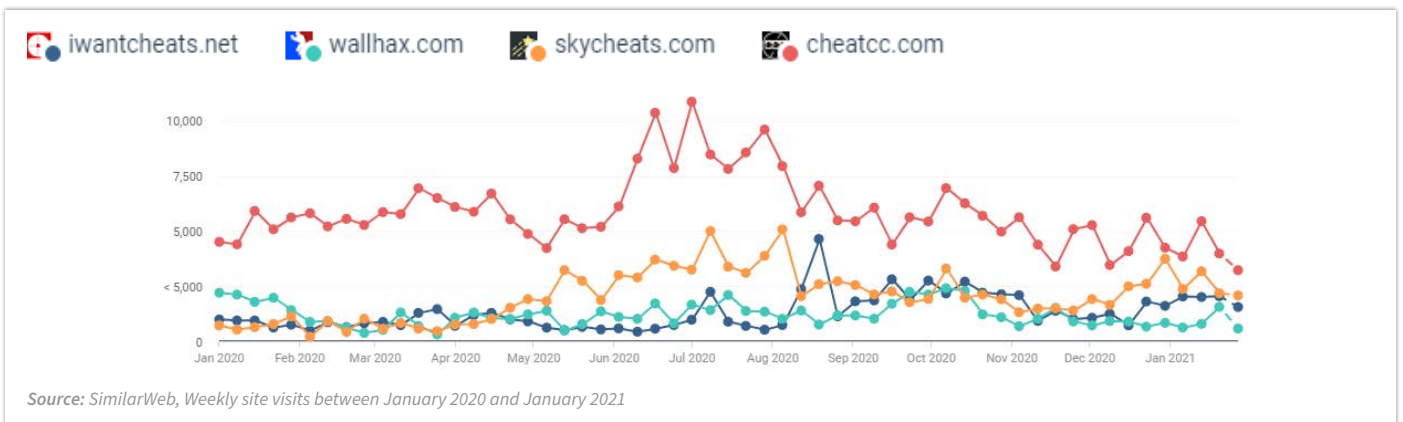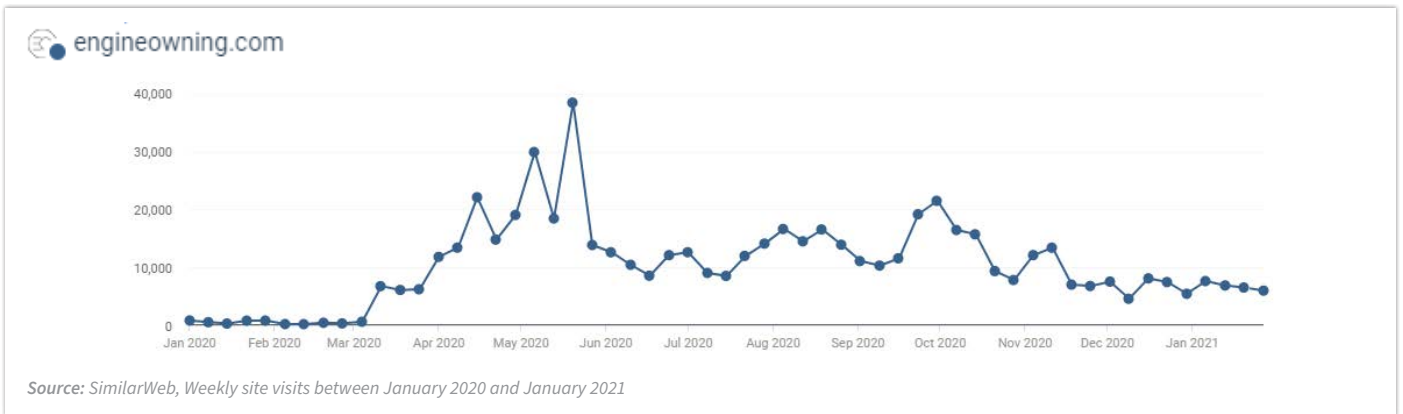
Opportunity

Feeling the pressure or motivation to commit fraud, the fraudster must also have the opportunity to commit fraud. Based on our research, there is plenty of opportunity for cheaters to purchase bots and hacks from third-party developers. These types of cheats are easily found and are downloadable at relatively small cost. From a software perspective, they have been mostly successful at avoiding detection by anti-cheat programs, thus thwarting the attempts of video game developers to automatically identify cheating gamers. If video game developers are successful in implementing more effective detection tools, the opportunity for cheating may be reduced.

We again turned to analyzing website traffic data to see if known sellers of cheats saw an increase in popularity during the pandemic. The first chart indicates an increase in visits to engineowning.com, a popular website that sells cheats and hacks, with a more definitive spike in late May 2020. The second table includes website traffic to four additional sites that sell cheats and hacks.

Source: SimilarWeb, Weekly site visits between January 2020 and January 2021

Source: SimilarWeb, Weekly site visits between January 2020 and January 2021

Based on the trend of website visits, it appears that the increased interest in video games (starting in March 2020) did not immediately translate into increased searches for sellers of cheats. The new gamers may have needed time to determine their preference of games prior to considering the option of cheating.

Rationalization

Rationalization is the ability of the fraudster to deem his or her actions acceptable. For example, when stealing, fraudsters may rationalize that they are simply borrowing the cash with the intention to pay it back later. Video game cheaters may also rationalize their actions thinking that "everyone else does it," "it's only cheating if you get caught," or believing that the bots and hacks are the only way for the gamer to win, or even to be competitive. The cheater may also rationalize that the use of bots and hacks in a video game is harmless, as there are not necessarily any real-world effects on those who the cheater comes into contact within a video game setting.

However, when a game becomes saturated with cheaters other players may become frustrated with the situation and may lose interest in the game. Several popular Battle Royale games are downloadable for free, but players often make in-game purchases. Quitting the game (for good) may result in a small monetary loss for the items purchased in the game, but also the loss of an enjoyable distraction. Recently, a streamer with over seven million subscribers said he was quitting one popular online game because of the number of hackers, and the developer's failure to address the problem.[11]

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[11] https://www.bbc.com/news/technology-55893817

Conclusion

The adage of "cheaters never win" may apply in a moralistic sense, but in the video gaming world cheaters appear to win with some regularity. The dynamics of the pandemic and physical distancing have increased the number of individuals turning to video games as a source of entertainment and socialization. With more participants there are more individuals who are willing to break the rules. Also, with the pandemic, gamers appear to more frequently turn to cheating for their own personal benefit or entertainment. If a friend or acquaintance, with whom you spend time socializing over video games, displays some of the above (or similar) characteristics, you may be gaming with a cheater. In other words, next time you are gaming and are eliminated in spectacular fashion, give yourself more credit – maybe you were "offed" by a cheater.

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